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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,872	05/29/2001	Yoshiko Saito	L9289.01143	6270

7590 04/18/2002

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EXAMINER

IQBAL, KHAWAR

ART UNIT PAPER NUMBER

2685

DATE MAILED: 04/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/856,872

Applicant(s)

SAITO ET AL.

Examiner

Khawar Iqbal

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03/04/2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 09.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2685

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 5-10 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-4 have been canceled.

Claims 5-10 have been added.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen (6327302) in view of Ionescu et al (6295289).

Regarding claim 5 Shen teaches a radio communication system (col. 2, lines 37-44) comprising

a base station apparatus that transmits a downlink (304) signal containing a tap coefficient obtained in association with an uplink (303) signals (col.2, lines 36-67, fig. 2), and a communication terminal (mobile) apparatus that transmits (303) said uplink signal to said station, receives (304) said downlink signal from said station, performs equalizing on data contained in the downlink signal while updating tap coefficients using, as an initial value, the tap coefficient transmitted in said downlink (304) signal from the station apparatus (for example, col. 4, lines 28-60, col. 6, lines 50-65). Shen does not specifically mention the device as being a base station (downlink, uplink). However, Shen discloses radio signal is receiving and transmitting through the air wireless communication system (well known in the art). Within the same field of endeavor, Ionescu et al disclose base station (uplink, downlink signal, tap coefficient, use within the system) (for example, col. 7, lines 47-65, figs.1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Shen by as a adding base station as taught by Ionescu et al to control the establishment of channels between the mobile unit and a base station.

Regarding claims 6 and 7 Shen teaches the communication terminal apparatus (mobile) comprising: a receiver that receives (304) the downlink signal containing the tap coefficient obtained in the station apparatus in association with the uplink signal (303), and an equalizer that performs said equalizing on data contained in the downlink signal received in the receiver, according to an adaptive algorithm (400) for updating tap

Art Unit: 2685

coefficients using, as said initial value, the tap coefficient received in said downlink signal (col.4, lines 28-60, and see claim 1). Shen does not specifically teach base station. Within the same field of endeavor, Ionescu et al disclose base station (uplink, downlink signal) (col. 7, lines 1-19 and lines 47-65, figs.1-5). Therefore, it is well known in wireless communication system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Shen by specifically adding base station to control the gain of the Tx/Rx and to control the establishment of channels between the mobile unit and a base station.

Regarding claims 8, 9 and 10 Shen teaches an equalizing method comprising operating a communication terminal (mobile) apparatus to receive (304) a downlink signal containing a tap coefficient from a station apparatus and to start an equalizing operation on received data in said downlink signal after receiving said tap coefficient contained in said downlink signal from said station apparatus, and operating the station apparatus to obtain said tap coefficient in association with an uplink signal transmitted from the communication terminal apparatus (for example, col. 4, lines 28-60, col. 6, lines 50-65). Shen does not specifically mention the device as being a base station (downlink, uplink, tap coefficient within the system). However, Shen discloses radio signal is receiving and transmitting through the air wireless communication system (well known in the art). Within the same field of endeavor, Ionescu et al disclose base station (uplink, downlink signal, tap coefficient) (for example col. 7, lines 47-65, figs.1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Shen by as a adding base station as

Art Unit: 2685

taught by Ionescu et al to control the establishment of channels between the mobile unit and a base station.

### **Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, Yamamoto (6252914), Hirasaka (6124997), Saito (5943362), and Shimizu (5886844) teach tap coefficients and time varying convergence parameters in a fast adaptive algorithm to provide fast channel equalization.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final.

**Any response to this final action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2685 only)**

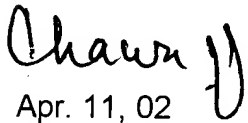
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

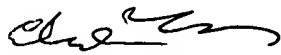
Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, EDWARD URBAN, can be reached at 703-305-4385.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Khawar Iqbal

  
Apr. 11, 02

  
**EDWARD F. URBAN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**